



Proposed Adoption of California Climate Action Registry's Forestry Greenhouse Gas Protocols for Voluntary Purposes

October 25, 2007



California Air Resources Board

California Environmental Protection Agency



Overview

- **Today's Proposed Action**
- **Forestry Sector Background**
- **AB 32 Context**
- **CCAR Forest Protocols**
- **Next Steps and Recommendations**



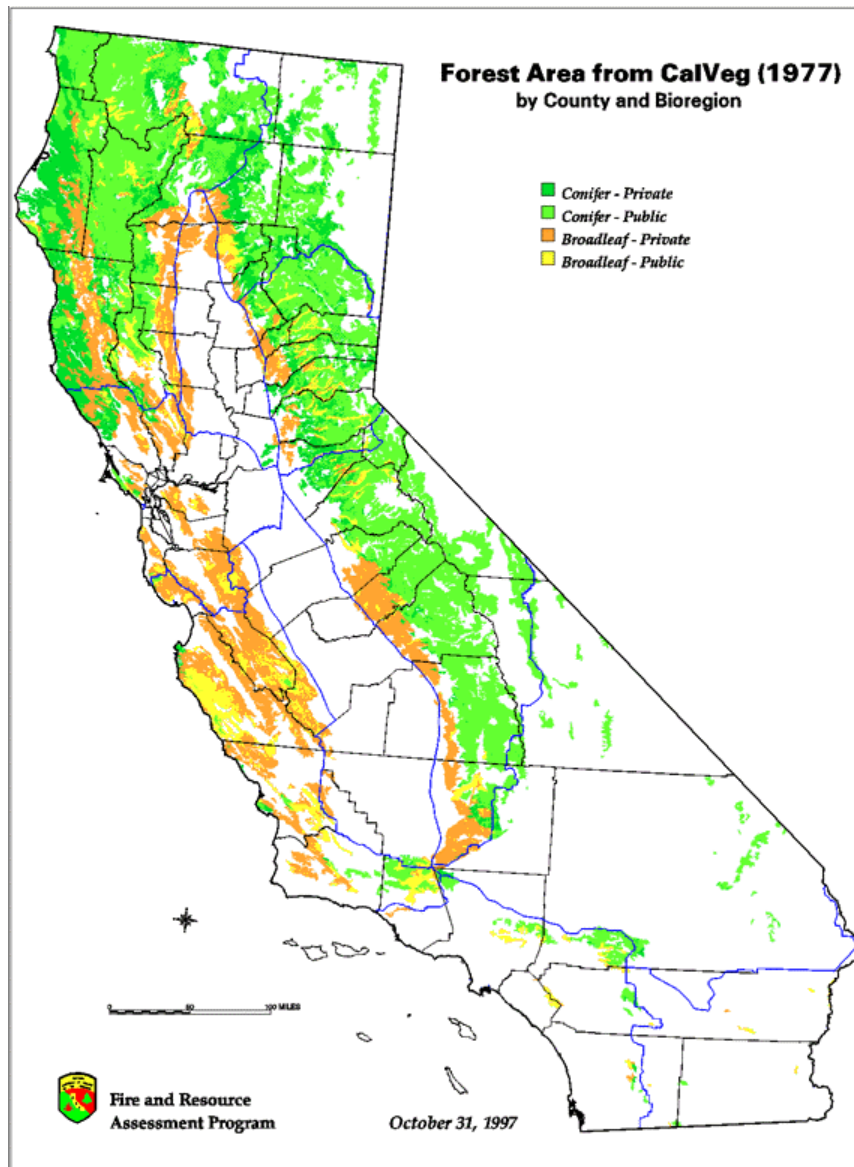
Today's Proposed Action

- **Staff proposes adoption of California Climate Action Registry (CCAR) forestry protocols (non-regulatory)**
- **Endorse an ongoing process to develop further forestry GHG quantification approaches**



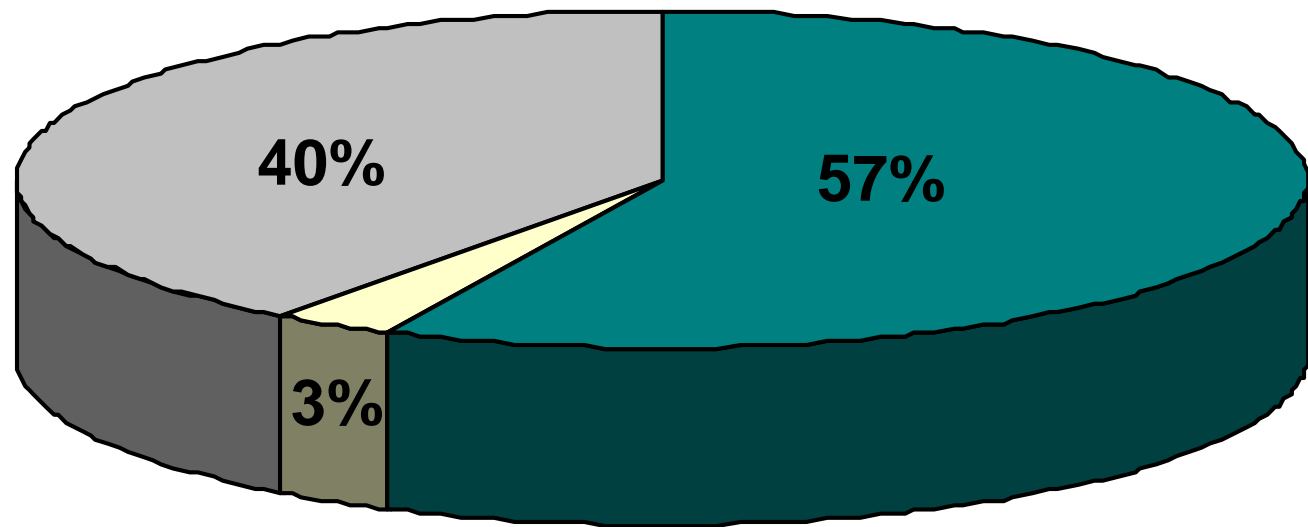
Forestry Sector Background

California Forests



- 34 million acres of forest lands
- Large potential for sequestration
- Diversity of forest types
- Among nation's most productive
- Diversity of ownership and management

Forest Land Holdings



■ Federal ■ State/Local ■ Private



Forests Can Remove Carbon From the Air

- **Forests remove CO₂ from the air by sequestering carbon**
- **Forested land sequestering approximately 14 MMTCO₂eq from the air annually**
- **Total carbon stored in California forests estimated to be 1.7 billion tons**



Forests Can Release Carbon Into the Air

- **Loss of forests decreases carbon stock and considered a CO₂ emission**
 - **Harvesting**
 - **Wildfire**
 - **Land-use conversion**
- **Emission related to harvesting**
 - **Soil disturbance**
 - **Burning debris**
 - **Decay process**
 - **Fuel combustion**



Forest Sector Challenges

- **Environmental issues are complex**
 - **Air**
 - **Water**
 - **Habitat preservation**
 - **Wildfire**
- **Diverse stakeholder interests**




AB 32 Context



AB 32 Requirements

- **Adopt methodologies for the quantification of voluntary GHG emission reductions (non-regulatory)**
- **Adopt regulations to verify and enforce voluntary GHG reductions**



AB 32 Requirements for Reductions

- **Real**
- **Quantifiable**
- **Permanent**
- **Verifiable**
- **Enforceable**
- **Not otherwise required and would not otherwise occur (additionality)**




International Voluntary Carbon Standard (2007)

- **Sets international criteria**
- **Participating organizations**
 - **International Emissions Trading Association**
 - **World Business Council for Sustainable Development**
 - **World Economic Forum**
 - **The Climate Group**
- **Accounting criteria consistent with AB32**
- **AB 32 more explicit on enforceability**



CCAR Forest Protocols



Overview of CCAR Forest Protocols

- **Provide rigorous carbon accounting methods for voluntary projects**
- **Developed with extensive technical and stakeholder input**
- **Reflects international criteria**
- **Meets requirements of SB 812**
- **Supported by Board of Forestry in 2004 and adopted by CCAR Board in 2005**



SB 812 Requirements

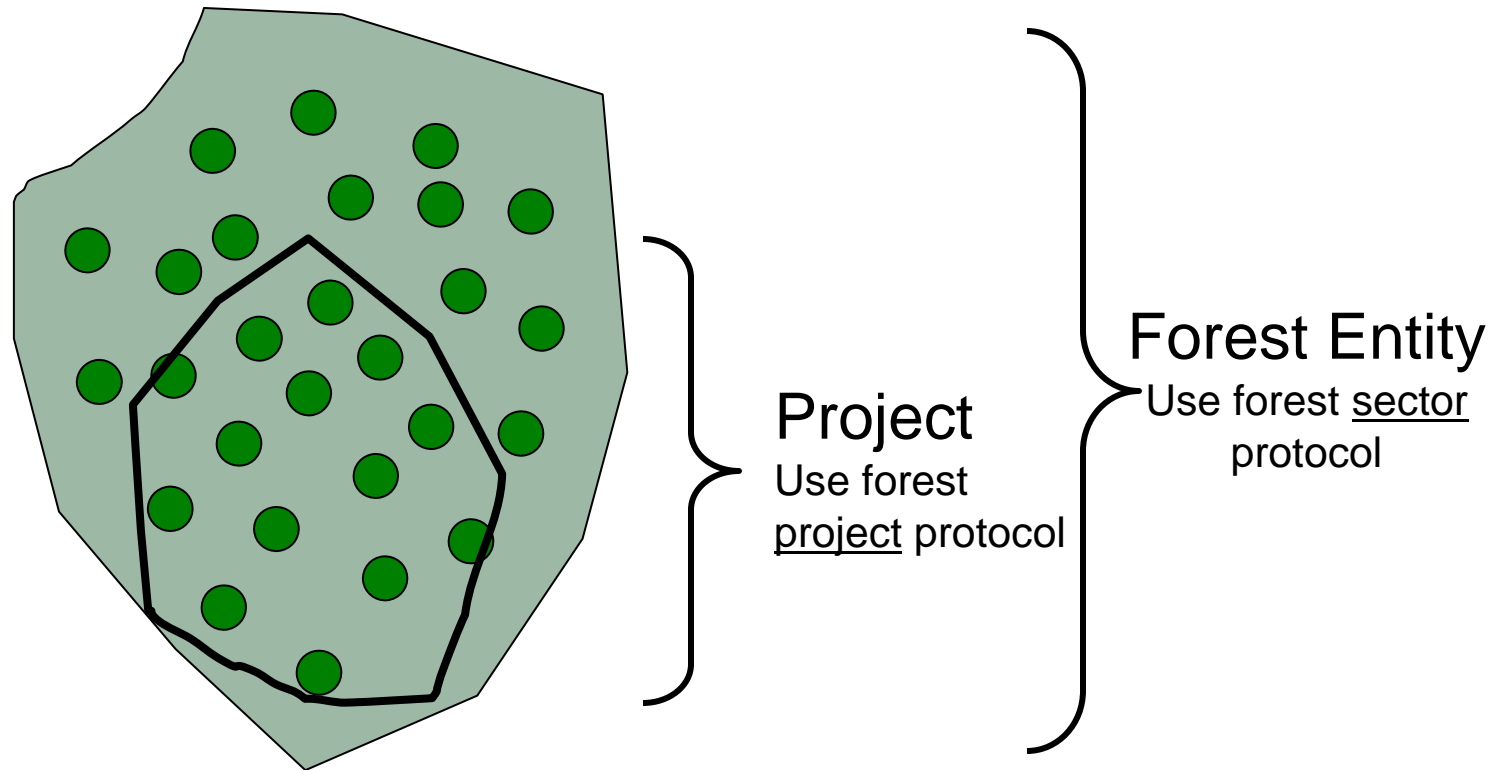
- **CCAR responsible for developing protocol**
- **Conservation management criteria**
- **Permanent conservation easement**
- **Reductions must exceed all federal, state, and local requirements**



CCAR Forest Protocols: Description

1. Sector (Entity) - for entity-wide emissions
2. Project - for forest project reductions
3. Certification - guidance for certifiers

Entity Vs. Project





Sector (Entity) Protocol

- Entity reporting by individual, corporation, or agency
- May establish baseline
- Report annual changes in carbon stock
- Increases in stock registered through project protocol



CCAR Forest Project Protocol

- Project protocol used for carbon *reduction* accounting
- Covers three forest project types
- Baseline requirements different for each project type
- Provides approaches for estimating carbon stock
- Protocol elements designed to keep carbon reductions additional and permanent



Protocol Project Types

Three project types:

- **Reforestation**
- **Conservation-based Management**
- **Conservation**



Baseline Criteria for Project Types

- **Reforestation:** ten years without tree cover
- **Conservation:** data on planned development or specific land conversion trends
- **Conservation-based management:** land will be managed pursuant to specific criteria in California Forest Practice Rules



Quantifying Carbon Stocks

- **Accounting of carbon stored in live trees and dead biomass**
- **Protocols use California equations from nation-wide USFS study**
- **Site-specific data allowed**
- **Annual reporting**
- **Optional elements (shrubs, soil, litter/duff, wood products)**



Additionality

- Practices that exceed “business-as-usual”
- Exceed mandatory requirements
- Required by AB32
- Internationally recognized criterion



Permanence

- **CCAR project protocol requires permanent conservation easement**
- **Attaches liability to land, not owner**
- **Other approaches will be considered moving forward**



Certification Protocol

- **Independent review of completeness, consistency, and accuracy**
- **Must include a Registered Professional Forester**
- **Review annual monitoring reports**



CCAR Protocols In Practice

- **Two projects in certification process**
 - **Garcia River Forest**
 - **Van Eck Forest**
- **Management plans include continued harvest**
- **Value of additional stored carbon provides incentive**



Next Steps and Recommendations



Process for Additional Methodologies

- **ARB/Resources Agency Forest Sector Workgroup**
- **Continue to work in conjunction with CCAR on additional forest quantification methodologies**
- **Encourage broad participation from forest sector in GHG reduction projects**



CCAR Activities

- **CCAR has established process for developing protocols**
- **Expand scope of forest protocols outside of California**
- **Continue to develop additional approaches for the forest sector**



Areas of Future Work

- **Develop additional approaches for:**
 - **Forest management**
 - **Public lands**
 - **Urban forests**
 - **Biomass utilization/Wildfire avoidance**



Staff Recommendations

- **Adopt the California Climate Action Registry Forestry Protocols for voluntary GHG accounting**
- **Endorse an ongoing process to support development of further GHG reduction approaches**